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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,296	04/09/2001	Tsuyoshi Kaito	F-6931	6886

7590 01/16/2003

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122 East 42nd Street  
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EXAMINER

YUAN, DAH WEI D

ART UNIT	PAPER NUMBER
1745	2

DATE MAILED: 01/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/829,296	KAITO ET AL.
	Examiner	Art Unit
	Dah-Wei D. Yuan	1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on \_\_\_\_.

2a) This action is **FINAL**.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-7 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_ is/are allowed.

6) Claim(s) 1-4 is/are rejected.

7) Claim(s) 5-7 is/are objected to.

8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. \_\_\_\_.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.

4) Interview Summary (PTO-413) Paper No(s) \_\_\_\_.

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_.

**NON-AQUEOUS ELECTROLYTE RECHARGEABLE BATTERY**

Examiner: Yuan      S.N. 09/829,296      Art Unit: 1745      January 9, 2003

***Specification***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Objections***

2. The use of the term "thereby" in claims 1,4 is improper. It is noted that the courts have held that functional "thereby" statements do not define any structure, and accordingly cannot serve to distinguish over the prior art. See In re Mason, 114 USPQ 127, 44 CCPA 937 (1957). Appropriate corrections are required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 4-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite. The phrase "ring- like" renders the claim indefinite because the term "-like" fails to describe a specific structure.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in –

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

6. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Quinn et al. (US 6,342,826 B1).

Quinn et al. teach a rechargeable battery comprising a positive electrode, a negative electrode, and a switch (40 in Figure-1). The switch having closed and open positions moves from one position to the other in response to an elevated temperature. Circuit devices, including the switch, are used to interrupt charging or discharging of the battery in the event of thermal runaway. Figure 29 shows the charging circuit (M) as the external power source which is in electrical contact with the battery. With respect to claims 2 and 3, the switch can be a shape memory alloy (a temperature-sensitive element) that moves from an open position to a closed position by changing to its recovered shape in response to an elevated temperature in the chamber of the battery. With respect to claim 4, case (200) contains a wrapped multi-layer assembly J that forms the battery electrodes. One electrode of the electrode assembly J is attached to fixed contact (10) by wire (210) while the other electrode is connected to battery case 200. In the arrangement shown in Figure 28, fixed contact (10) is the positive battery terminal

while the battery case and the lid are the negative terminal. However, it will be recognized that reverse arrangements also are possible. The switch (40) element is in electrical contact with the external terminal (30) and internal terminal (10). A snap-acting flexible metal foil diaphragm (16) (a conductive element) is electrically connected to the battery case and electrically insulated from both terminals by insulator C and insulator 12 as shown in Figure 28. The switch can make electrical contact with the diaphragm when pressure builds up (due to temperature increases) as shown in Figure 12. As result, the power to the charging circuit (external power source) is cut as indicated in Figure 29. See Abstract; Column 1, Lines 5-31; Column 5, Lines 1-65; Column 8, Lines 15-28; Column 9, Lines 18-37.

***Allowable Subject Matter***

7. Claims 5-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 5-7 would be allowable because the prior art does not disclose or suggest the electrical insulation is effected by a ring-like gasket disposed on an inner peripheral side of the ring-like conductive element, the external terminal and the internal terminal being arranged on an inner side of the ring-like gasket, the ring-like conductive element having an inwardly extending protrusion passing through a hole formed in the ring-like gasket towards between the external terminal and the internal terminal.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shiota et al. (US 6,187,472) teach a battery in which the internal electrode connector and the external circuit connector is formed by a shape memory alloy which warps with the rise in ambient temperature. Tateno et al. (US 6,045,939) teach the use of a thermal switch that has a mechanism for electrically connecting the cathode and the anode at a portion other than an active material-containing layer in accordance with an increase in the battery temperature.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (703) 308-0766. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (703) 308-2383. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Dah-Wei D. Yuan  
January 10, 2003

*PR*  
Patrick Ryan  
Supervisory Patent Examiner  
Technology Center 1700